Hypertension

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OP-031

Evaluation of Tp-e Interval and Tp-e/QT Ratio in Patients with Nondipper Hypertension

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Aims: Non-dipper hypertension is associated with increased cardiovascular morbidity and mortality. Several studies have suggested that the interval from the peak to the end of the electrocardiographic T wave (Tp-e) may correspond to the transmural dispersion of repolarization and that increased Tp-e interval and Tp-e/QT ratio are associated with malignant ventricular arrhythmias. The aim of this study was to evaluate ventricular repolarization by using Tp-e interval and Tp-e/QT ratio in patients with nondipper hypertension.
Materials-Method: This study included 80 hypertensive patients. Hypertensive patients were divided into two groups: 50 dipper patients (29 male, mean age 51.5±8 years) and 30 non-dipper patients (17 male, mean age 50.6±5.4 years). Tp-e interval and Tp-e/QT ratio were measured from the 12-lead electrocardiogram. These parameters were compared between groups.
Results: No statistically significant difference was found between two groups in terms of basic characteristics. In electrocardiographic parameters analysis, QT dispersion (QTd) and corrected QTd were significantly increased in nondipper patients compared to the dippers (39.4±11.5 vs 27.3±7.5 milliseconds and 37.5±9.5 vs 29.2±6.5 milliseconds, P=0.001 and P=0.01, respectively). Tp-e interval and Tp-e/QT ratio were also significantly higher in nondipper patients (97.5±11.2 vs 84.2±8.3 milliseconds and 0.23±0.02 vs 0.17±0.02, all P value <0.001).
Conclusion: Our study revealed that QTd, Tp-e interval and Tp-e/QT ratio are prolonged in patients with nondipper hypertension.

Comparison of basic and electrocardiographic features of dipper and nondipper hypertensive patients

	Dipper (n=50)	Nondipper (n=30)	p
Age (years)	51.5 ± 8	50.6 ± 5.4	0.2
Sex (n,%) males	29 (58%)	17 (56.6%)	0.62
Creatinine (mg/dl)	0.92± 0.12	1.1 ± 0.18	0.24
LV ejection fraction (%)	63.6± 14.4	61.4 ±8.5	0.24
LV mass index (g/m2)	111.6 ± 21.2	147 ±25.7	0.001
QT dispersion (QTd) (ms)	27.3±7.5	39.4±11.5	0.001
corrected QT dispersion (cQTd)	29.2±6.5	37.5±9.5	0.01
Tp-e interval	84.2±8.3	97.5±11.2	<0.001
Tp-e/QT ratio	0.17 ± 0.02	0.23 ± 0.02	<0.001

LV: left ventricular

OP-032

Comparisons of Different Cardiovascular Risk Scoring Systems in Predicting 10-Year Cardiovascular Events in the Population of Patients Followed-Up for Asymptomatic Hypertension

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Objectives: The aim of this study was to compare the accuracies of different cardiovascular disease (CVD) risk scoring systems in predicting cardiovascular (CV) events in a group of Turkish patients with uncomplicated hypertension.
Methods: The study group consisted of 100 patients (37 male, 63 female, aged 54±12 years) admitted between 2000-2001. The 10-years risks were calculated using Framingham, SCORE, PROCAM and TEKHARF risk scores. CV endpoints were defined as death due to CVD and coronary heart disease (CHD). Follow-up was achieved using phone calls and/or clinical visits.
Results: Percentage of high risk group patients were 20%, 25%, 33% and 49% according to PROCAM, TEKHARF, Framingham and SCORE risk classifications, respectively. Concordance between scales to classify patients into the same risk groups was low and differences were significant for all the comparisons (p<0,001 for all). During a mean follow-up of 10, 6±0, 9 years, 42 CVD events were determined, 9 of which were death due to CVD. In ROC analysis, SCORE and PROCAM models had higher area under curves for death due to CVD (AUC 0.73 vs. 0.72) compared to Framingham and TEKHARF risk scores (AUC 0.58 vs. 0.69), but the differences were not statistically significant. For CHD, the only model that estimated events successfully was SCORE (AUC 0,71 95% CI 0,61-0,80; p<0,001) with a predictive cut-off value of >3%.
Conclusion: This study indicates that SCORE is probably the most suitable CVD risk estimation method in patients with hypertension. However, due to lack of adequate studies regarding this issue, we need more comprehensive, prospective studies for determination of the most suitable risk evaluation system for our population.

OP-033

The Evaluation of Galectin-3 Levels in Non-dipper Hypertensive Patients

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Objective: The lack of a normal nocturnal fall in blood pressure (non-dipper) in hypertension is associated with more prominent target organ damage and increased risk for subsequent cardiovascular and renal disease. Increasing evidence supports the view that inflammation may participate in the development and define the outcome of hypertension. The aim of the study is the evaluation of Galactin-3, a β-galactoside-binding lectin that plays an important role in inflammatory diseases, in non-dipper hypertension.
Methods: 88 hypertensive patients without diabetes and 39 healthy subjects as control group had been enrolled in this study. Plasma Galectin-3 levels had been measured with enzyme-linked immuno sorbent assay (ELISA). 24-hour ambulatory blood pressure monitoring allowed allocation of study population into 2 groups: 42 patients with dipper hypertension and 46 non-dipper hypertension.
Results: There was no difference between groups regarding age, sex or body mass index. Galactin-3 levels were significantly higher in non-dipper hypertensive patients compared to control subjects (1,19±0,86 ng/ml versus 0,78±0,09 ng/ml; p=0,01) while for dipping hypertensive patients the difference with control subjects was not significant (1,09±0,59 ng/ml versus 0,78±,09 ng/ml; p=0,07). Non-dipper hypertension patients had also higher levels of galectin-3 compared to dipper patients but again the difference was not significant (1,19±0,86 ng/ml versus 1,09±0,59 ng/ml; p=0,7).
Conclusion: The high levels of inflammatory molecule galectin-3 in non-dipper hypertension may be one of the mechanisms to explain the increased cardiovascular risk reported by previous studies in this group of patients. Large scale studies are necessary to test this hypothesis.

OP-034

Evaluation of Left Ventricle Mechanics in Prehypertensive Patients

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Introduction: Prehypertension is defined as a systolic blood pressure (SBP) of 120-139 mmhg or/ and a diastolic blood pressure (DBP) of 80-89 mmhg. Prehypertensive patients have higher risk of developing hypertension in their life time than those with blood pressure <120/80 mmhg. Impaired left ventricular systolic function is associated with poor outcomes in patients with hypertension. In our study, we aimed to show the impact of prehypertension on left ventricular mechanics in prehypertensive patients with preserved ejection fraction using speckle tracking echocardiography (STE).
Methods: Between December 2010 and February 2011, 136 patients were enrolled in this study. As measured by outpatient, the patients who had SBP ranging from 120-139 mmhg or/and DBP ranging from 80-89 mmhg constituted the pre-hypertensive population (group 1) and the patients who had SBP lower than 120 mmhg and DBP lower than 80 mmhg constituted the control population (group 2). The prehypertensive patient group was divided into 2 subgroups: SBP between 130 and 139 mm Hg and/or DBP between 85 and 89 mmHg were defined 'high normal', whereas SBP between 120 and 129 mm Hg an/or DBP between 80 and 84 mmHg were defined 'normal'. Patients who had blood pressure ≥140-90 mmhg, diabetes mellitus, thyroid dysfunction, anemia, chronic obstructive pulmonary disease, renal disorder, structural heart disease and moderate or severe valvular heart disease were excluded from the study. In STE examination, left ventricular strain, peak longitudinal strain were calculated from apical 4 chamber, 2 chamber and long axis images and global strain was calculated from the average of apical 4 chamber, 3 chamber and 2 chamber images.
Results: There were 66 patients (mean age 49.2 ±6, 37 male) in group 1 and 70 patients (mean age 47.6± 6, 36 male) in group 2. There were no differences between

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